

a body having a flow path therein, said body defining at least one first outlet for selective fluid communication between said flow path and the casing and at least one second outlet for selective fluid communication between said flow path and the casing;

a seal for said body for sealing with the casing;

a sliding sleeve mounted to said body, said sliding sleeve being moveable between an open and a closed position for selectively permitting fluid flow from said flow path through said at least one first outlet into the casing; and

a valve for said body in communication with said flow path, said valve being controllable between an open and a closed position for selectively permitting fluid flow from said flow path through said at least one second outlet into the casing.

*A1 Conf.*  
*31/32.* A casing fill-up and circulating tool operable for filling a casing and for circulating fluid in the casing, said fill-up and circulating tool comprising:

a body having a flow path therethrough;

a seal for said body for sealing with the casing;

said body having at least one first outlet for selective communication between said flow path and the inside of the casing, said at least one first outlet being controllable between an open and a closed position for either permitting fluid flow from said flow path into the casing through said at least one first outlet in said open position and for preventing fluid flow through said at least one fluid outlet and into the casing in said closed position; and

said body having at least one second outlet for selective communication between said flow path and the inside of the casing, said at least one second outlet being controllable between an open and a closed position for either permitting fluid flow from said flow path into the casing through said at least one second outlet in said open position and for preventing fluid flow through said at least one fluid outlet and into the casing in said closed position.

*38 35*

*A*

~~32~~  
38. A casing fill-up and circulating tool operable to fill and to circulate fluid in a casing, said fill-up and circulating tool comprising:

a body defining an axially directed internal flow path, said body having at least one outlet positioned along said body for selective fluid communication between said flow path and the casing;

a seal for said body for sealing with the casing; and

A1  
Conf.  
a movable sleeve for selectively blocking and unblocking said at least one outlet, said moveable sleeve being selectively controllable for movement between a first position and a second position to thereby control fluid communication between said internal flow path and said at least one outlet, said moveable sleeve being biased so as to be urged toward at least one of said first position or said second position, whereby said moveable sleeve is operable for selectively preventing or permitting fluid flow from said internal flow path through said at least one outlet and into the casing.

~~33~~  
34. A casing fill-up and circulating tool to fill fluid into and to circulate fluid inside a casing, said fill-up and circulating tool comprising:

a body defining an internal flow path, said body having at least one outlet for selective fluid communication between said flow path and the casing;

a seal for said body for sealing with the casing; and

a moveable sleeve mounted to said body, said moveable sleeve being selectively and repeatably controllable for movement between a first position and a second position to thereby control fluid communication between said internal flow path and said at least one outlet, said moveable sleeve being biased towards said first position, said moveable sleeve being operable for movement to said second position independently of a fluid pressure in said internal flow path, whereby said moveable sleeve is operable for selectively preventing or permitting fluid flow from said internal flow path through said at least one outlet and into the casing.

3940

A

34  
35.

An apparatus for filing and circulating casing, comprising:  
a body having an axial flow path therethrough, said body being insertable into the casing;  
a valve in said body further comprising a valve element engageable with a seat, said body defining an opening;

said valve element, on application of fluid pressure in said body, is displaced relative to said seat and said body to permit fluid flow through said seat and through said opening in said body and into the casing; and

a shiftable tube extending from said valve element and moving therewith, said shiftable tube having a bore therein to permit fluid flow through said bore and said opening into the casing.

A  
Conf.  
35  
36.

An apparatus for filing or circulating casing, comprising:

a body having a flowpath therethrough, said body being insertable into the casing;

a valve in said body further comprising a valve plug and a seat, said body defining an opening;

said valve plug, on application of fluid pressure in said body, is displaced relative to said seat; and

said valve plug further comprises a shiftable tube extending therefrom and moving therewith, having a bore therethrough in fluid communication with said flowpath.

36  
37.

A fill-up and circulation tool for inserting into the upper end of a casing string to fill fluid into and to circulate fluid from inside the casing into a wellbore or use on top drive or rotary type drilling rigs, the fill-up and circulation tool comprising:

a mandrel having a central axial bore defining a flowpath therethrough, said mandrel having an inlet, an outlet, an outer surface, and a plurality of apertures near said outlet;

4/ 5/10

A

a sliding sleeve in slidable engagement with said mandrel, for opening and closing said plurality of apertures near said outlet;

A<sup>1</sup>  
Concl.  
rig;  
a top sub assembly connected to the inlet of said mandrel for connecting the mandrel to the

a packer cup mounted with said tool on the mandrel or the sliding sleeve for interference fit with the inside diameter of the casing to seal the casing below the packer cup; and

a stop device for limiting the travel of the sliding sleeve.

[ Please amend the following claims as indicated:

1. (Amended) A fill-up and circulating tool [for inserting into the upper end of a casing string] to fill fluid into and to circulate fluid from inside [the] a casing [into a wellbore for use on top drive and rotary type drilling rigs], the fill-up and circulating tool comprising:

A<sup>2</sup>  
a [mandrel] body having a central axial bore defining a flow path therethrough, at least one outlet laterally disposed along said [mandrel] body with respect to said central axial bore;

a sleeve [in engagement with] mounted to said [mandrel] body so as to be moveable between a first position and a second position to selectively open and close communication through said at least one outlet from said flow path into the casing [for relieving pressure] to permit fluid flow from said flow path [through said mandrel] through said at least one outlet into the casing, said sleeve being biased so as to be urged toward at least one of said first position or said second position;

[an adjustable top sub assembly connected to said mandrel for variably extending the length thereof]; and

a sealing element disposed about said [mandrel] body for sealing engagement with [the inside diameter of] the casing.

2. (Amended) The fill-up and circulating tool of claim 1, wherein:  
engagement of said sealing element with [the] an inside of [said] the casing generally fixes  
at least a portion of said [mandrel] body in position with respect to [said] the casing.

A<sup>2</sup>  
Concl.  
3. (Amended) The fill-up and circulating tool of claim [2] 1, further comprising:  
a spring mounted to [disposed about the outer surface of] said [mandrel] body [and retained  
between said top sub assembly and said sleeve] for biasing said sleeve to cover said  
at least one [aperture] outlet [formed through said mandrel body];  
a spring stop disposed between said spring and said mandrel to limit the compression of said  
spring; and  
a lower body connected to said mandrel for limiting the travel of said sleeve].

4. (Amended) The fill-up and circulating tool of claim [3] 1, further comprising:  
a cementing head assembly connected atop said fill-up and circulating tool; and  
a wiper plug assembly having at least one detachable plug in functional connection with said  
fill-up and circulating tool for wiping the inside diameter of [said] the casing.

---

6. (Amended) The fill-up and circulating tool of claim 5, wherein:  
said ball carrier assembly carries one or more [operationally] balls disposed therein.

A<sup>3</sup>  
7. (Amended) The fill-up and circulating tool of claim 4, wherein:  
said [mandrel] body includes at least one screw aperture [and] for a set screw disposable  
therein[, said set screw for engaging with an upper surface of said spring stop] for  
fixing said sleeve in position to cover said at least one said outlet [mandrel aperture].

8. (Amended) The fill-up and circulating tool of claim 5, wherein:

said [mandrel] body includes at least one screw aperture [and] for a set screw disposable therein[, [said set screw for engaging with an upper surface of said spring stop] for fixing said sleeve in position to cover said at least one said outlet [mandrel aperture].

9. (Amended) The fill-up and circulating tool of claim 6, wherein:

said [mandrel] body includes at least one screw aperture [and] for a set screw disposable therein[, said set screw for engaging with an upper surface of said spring stop] for fixing said sleeve in position to cover said at least one said outlet [mandrel aperture].

A<sup>3</sup>  
Cont.  
10. (Amended) A fill-up and circulating tool [for inserting into the upper end of a casing string] to fill fluid into and to circulate fluid from inside [the] a casing [into a wellbore for use on a top drive and rotary type drilling rigs], the tool comprising:

a [mandrel] body having a central axial bore defining a flow path therethrough:

a pressure relief device in fluid communication with said [mandrel] body for relieving pressure [therethrough] from inside the casing to said flow path within said body when a casing pressure is greater than a pressure in said flow path;

a sleeve for said body moveable between an open position and a closed position for providing an outlet laterally disposed with respect to said flow path for fluid flow into the casing from said flow path, when said sleeve is in said closed position fluid flow from said flow path through said outlet is prevented, when said sleeve is in said open position fluid flow from said flow path through said outlet is permitted, said sleeve being biased so as to be urged toward at least one of said open

43 94

A

or closed positions, whereby said sleeve is selectively moveable between said open position and said closed position to control fluid flow between said flow path through said outlet and the casing;

[a top sub assembly connected to the mandrel for variably extending the length thereof;] and  
a sealing element for sealing engagement with [the inside diameter of said] the casing.

11. (Amended) The fill-up and circulating tool of Claim 10, wherein:  
engagement of said sealing element with [the] an inside diameter of [said] the casing  
generally fixes said [mandrel] at least a portion of said body in position with respect  
to [said] the casing.

12. (Amended) The fill-up and circulating tool of Claim 10, further comprising:  
a valve for controlling the flow of fluid through the [mandrel] body and into the casing.

13. (Amended) The fill-up and circulating tool of claim 11, further comprising:  
a cementing head assembly connected atop said fill-up and circulating tool; and  
a wiper plug assembly having at least one detachable plug in functional connection with said  
fill-up and circulating tool for wiping the inside diameter of [said] the casing.

15. (Amended) The fill-up and circulating tool of claim 14, wherein:  
said ball carrier assembly carries one or more [operationally] balls disposed therein.

16. (Amended) A casing fill-up and circulating tool [insertable into the upper end of a  
casing string] to fill [the] a casing [string] with fluid and to circulate fluid from inside  
the casing [string], the tool comprising:

44 45

A

a [mandrel] body having a top end and a bottom end forming an axial fluid flow pathway therethrough; said top end adapted for connecting to [the] a surface drilling apparatus;

a sleeve moveable with respect to said body, said sleeve being biased so as to be urged toward a first position and operably moveable to a second position for controlling fluid flow from said axial fluid flow pathway into the casing;

a sealing element connected about said [mandrel] body[, said sealing element adapted for engaging the interior of said casing when inserted therein preventing fluid flow between said sealing element and said casing]; and

A<sup>3</sup>  
Cont.  
a pressure relief apparatus in connection with said [mandrel] body, said pressure relief apparatus being operable for providing [a fluid pathway therethrough in] fluid communication [with] between said [mandrel] axial fluid flow pathway and the casing to permit [for] depressuring [said mandrel and said] the casing when a casing pressure inside the casing is greater than a body pressure within said axial fluid flow pathway.

17. (Amended) The fill-up and circulating tool of Claim 16, wherein:

said pressure relief apparatus forms at least one lateral aperture for relieving back pressure from [said] the casing when desired.

18. (Amended) The fill-up and circulating tool of Claim 17, further comprising:

a blocking member preventing fluid flow through said pressure release apparatus when pressure within said [mandrel] body pathway is greater than pressure in [said] the casing string, and allowing backflow when pressure in [said] the casing is greater than in said pathway.

4596

A



19. (Amended) The fill-up and circulating tool of Claim 18, wherein:  
said blocking member includes a ball, said ball being biased and seated from an [the] interior  
of said pressure relief apparatus against said lateral passageway.

20. (Amended) The fill-up and circulating tool of Claim 18, wherein:  
said blocking member is a deflectable member disposed within said pressure relief apparatus  
[housing] adjacent said lateral aperture.

A<sup>3</sup>  
Cont.  
21. (Amended) The fill-up and circulating tool of claim 16, further comprising:  
a cementing head assembly connected atop said fill-up and circulating tool; and  
a wiper plug assembly having at least one detachable plug in functional connection with said  
fill-up and circulating tool for wiping the inside diameter of [said] the casing.

22. (Amended) The fill-up and circulating tool of claim 21, wherein:  
said cementing assembly carries one or more [operationally] balls disposed therein.

23. (Amended) The fill-up and circulating tool of claim 18, further comprising:  
a cementing head assembly connected atop said fill-up and circulating tool; and  
a wiper plug assembly having at least one detachable plug in functional connection with said  
fill-up and circulating tool for wiping the inside diameter of [said] the casing.

24. (Amended) The fill-up and circulating tool of claim 18, wherein:  
said cementing assembly carries one or more [operationally] balls disposed therein.

25. (Amended) The fill-up and circulating tool of claim 19, further comprising:

4/6/17

A

a cementing head assembly connected atop said fill-up and circulating tool; and  
a wiper plug assembly having at least one detachable plug in functional connection with said  
fill-up and circulating tool for wiping the inside diameter of [said] the casing.

26. (Amended) The fill-up and circulating tool of claim 25, wherein:  
said cementing assembly carries one or more [operationally] balls disposed therein.

27. (Amended) The fill-up and circulating tool of claim 20, further comprising:  
a cementing head assembly connected atop said fill-up and circulating tool; and  
a wiper plug assembly having at least one detachable plug in functional connection with said  
fill-up and circulating tool for wiping the inside diameter of [said] the casing.

28. (Amended) The fill-up and circulating tool of claim 27, wherein:  
said cementing assembly carries one or more [operationally] balls disposed therein.

[30.] 29. (Amended) A fill-up and circulating tool [insertable into the upper end of a  
casing string] to fill [the] a casing string with fluid and to circulate fluid from  
inside the casing string, the tool comprising:

a [mandrel] body [having a top end and a bottom end] forming an axial fluid flow pathway  
[therethrough] therein, said body defining at least one first outlet to the casing and  
at least one second outlet to the casing; [said top end adapted for connecting to the  
surface drilling apparatus;]

a sealing element connected about said [mandrel] body, said sealing element adapted for  
[engaging the interior of said casing when inserted therein] preventing fluid flow  
between said [sealing element] body and [said] the casing;

49

A